REMARKS

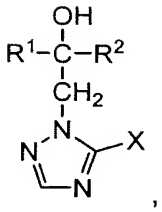
Applicants' claimed invention is directed to a narrowly defined active compound combination consisting essentially of spiroxamine, prothioconazole (at a specific weight ratio range relative to spiroxamine) and tebuconazole (also at a specific weight ratio range relative to spiroxamine).

Rejection under 35 U.S.C. 103

Claims 9 and 11-15 stand rejected under 35 U.S.C. 103(a) based on U.S. Patent 5,789,430 ("Jautelat et al") in view or the cited Latteur et al article from *BioControl*, 47, 435-444 (2002) and further in view of U.S Patents 6,503,932 ("Eicken et al") and 5,397,795 ("Valcke et al"). Applicants respectfully traverse.

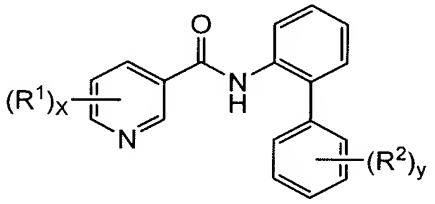
Applicants first object to the rejection as being contrary to representations made in the Advisory Action dated December 5, 2008, which indicated in item 5 that "Applicant's reply has overcome the following rejection(s): The rejection of claim 10 under 35 U.S.C. 103(a)." In explanatory comments, the Advisory Action stated with respect to the claims as a whole that evidence presented in the examples of their specification and in a Declaration of Dr. Peter Dahmen was not persuasive with respect to the full breadth of the claims as they then appeared but went on to state (as pointed out in Applicants' previous Amendment dated January 9, 2009) that "Applicant has provided evidence of synergy with respect to the combination of spiroxamine, prothioconazole and tebuconazole at specific ratios . . . [t]hus satisfying the instant ratio recited in claim 10" (emphasis added). Based on these favorable representations concerning Claim 10, Applicants in their most recent previous Amendment dated January 9, 2009, amended Claim 9 to incorporate the limitations of Claim 10 (which was then canceled as redundant) in the full and reasonable expectation that their amended claims would be allowed. Applicants are therefore surprised that the "Response to Arguments" appearing in the present Office Action at page 7 does not appear to have taken into account the representations of the Advisory Action and Applicants' subsequent amendments but instead refers to arguments presented by Applicants in an earlier Amendment of November 17, 2009 (mailed November 13, 2009). For this reason alone, Applicants submit that the rejection is improper. Nevertheless, for the sake of completeness, Applicants submit the following responsive arguments to bolster their position.

As Applicants have fully discussed in several previous Amendments, **Jautelat et al** discloses microbicidal triazolyl derivatives of the formula



one compound of which is prothioconazole. See, e.g., formula in Example 1 at column 35. Jautelat et al teaches that the disclosed compounds can be used in mixtures with other active compounds, including the fungicide tebuconazole (see column 33, line 21). However, despite providing exhaustive lists of possible mixing partners, Jautelat et al does not mention spiroxamine. In fact, Jautelat et al does not specifically disclose mixtures of prothioconazole with any particular active ingredient mixing partner, much less teach or suggest the very narrowly defined three-component composition claimed by Applicants. Applicants thus maintain that Jautelat et al alone would thus not lead those skilled in the art to Applicants' claimed three-component compositions and uses.

Applicants also maintain that the other cited references do not bridge the gap between Jautelat et al and their claimed invention. **Latteur et al** discloses efficacy data for twenty fungicides, among which are spiroxamine and tebuconazole. E.g., Table 2 at page 441. However, Latteur et al at page 442 specifically states that "[a]ll fungicide formulations tested in this study contained a single active ingredient" (emphasis added) and that "[t]here are several questions about the possible effects of mixtures of two or three active ingredients at the same time," leaving open for further study using "improved tests" the answer to such questions. This is hardly the kind of teaching that would lead to efficacious combinations of active compounds, much less to the specific three-component combination claimed by Applicants. **Eicken et al** discloses fungicidal mixtures of (A) amide compounds of the formula



in which R^1 and R^2 are independently halogen, nitro, cyano, (halo)alkyl, (halo)-alkenyl, (halo)alkynyl, (halo)alkoxy, haloalkylthio, alkysulfinyl, or alkylsulfonyl, x is 1, 2, 3, or 4, and y is 1, 2, 3, 4, or 5 (of which is boscalid is an example when $(R^1)_x$ is

2-Cl and $(R^2)_y$ is 4'-Cl); and (B) an amino compound described as being "spiroxamin" but, if so, represented by a defective formula lacking a $-CH_2-$ group between the spirocyclic core and the amino side chain. E.g., column 1, lines 4-40. Even if the second compound is assumed to be spiroxamine, the biphenylamide component shares nothing in common with prothioconazole and tebuconazole as required to complete the three-component mixtures claimed by Applicants. **Valcke et al** discloses different binary fungicidal mixtures containing propiconazole (in contrast to prothioconazole) and tebuconazole. E.g., column 1, lines 28-32. Just as with Eicken et al, Valcke et al discloses mixtures containing only one of the compounds specified by Applicants. Furthermore, Applicants maintain that the Office Action provides no objective basis for using the absolute or relative amounts of the individual compounds used in the binary mixtures taught by Eicken et al and by Valcke et al to determine the relative amounts of spiroxamine, prothioconazole, and tebuconazole in a three-component mixture that would provide the enhanced efficacy found by Applicants. For these reasons alone, Applicants maintain that their claimed invention is not rendered obvious by Jautelat et al in view of the secondary references.

Even under the flexible approach to obviousness established by the Supreme Court decision *KSR International v. Teleflex*, 82 U.S.P.Q.2d 1385, 550 U.S. 398 (2007), a finding of obviousness requires "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." See 82 U.S.P.Q.2d at 1386 (quoting *In re Kahn*, 78 U.S.P.Q.2d 1329, 441 F.3d 977, 988 (Fed. Cir. 2006)). This is more a "would have" approach than a "might have" or "could have" approach. Moreover, as expressed in several CAFC decisions handed down after *KSR*, unexpected properties continue to make for non-obviousness. See, for example, *Takeda Chemical Industries v. Alphapharm*, 83 U.S.P.Q.2d 1169, 492 F.3d 1350 (Fed. Cir. 2007), and *Sanofi-Synthelabo v. Apotex*, 550 F.3d 1075, 89 U.S.P.Q.2d 1370, 1379-1380 (Fed. Cir. 2008), both of which support the proposition that obviousness can be overcome, even under the liberal standards of obviousness set forth in the *KSR* decision, by evidence of unexpected and unpredictable properties. That is, something other than the mere disclosure of elements taken from the prior art is necessary to support an obviousness rejection.

Here, Applicants reiterate their position by again referring to objective evidence of nonobviousness found in their specification and in the previously submitted Declaration under 37 C.F.R. 1.132 of Dr. Dahmen. Although the Office

Action makes passing reference to the data in Table 3 of the specification, the clear focus of the Office Action is on perceived weaknesses in the data of Tables 1 and 2. Applicants again note that they have consistently pointed out that the "Colby-like" approximations based on Tables 1 and 2 were calculated by adjusting the test results to account for differing application rates (i.e., by assuming a linear dose response curve over a modest rate range for each active compound, as explained in their Amendment dated June 9, 2008, at pages 7-8) and are thus at best only indirectly relevant. Applicants have mentioned these approximations not for their accuracy but only for their consistency with the directly relevant results shown in Table 3. E.g., previous Amendment dated November 13, 2008, at page 5. As clearly shown in Table 3, Applicants found that a three-component composition according to their invention exhibited complete, 100% fungicidal efficacy against *Fusarium nivale*, whereas one would have expected a significantly lower efficacy of only 54% as calculated using the three-component Colby formula. This direct evidence of synergism is clearly sufficient to overcome any inference of obviousness. Nevertheless, Applicants also submitted the Declaration of Dr. Dahmen to show that at least some ternary mixtures outside the scope of Applicants' claims are considerably less effective than their inventive mixture of spiroxamine, prothioconazole, and tebuconazole. [By way of brief summary, these inferior comparison mixtures replaced prothioconazole with propiconazole, as well as with triadimenol and triadimefon.] If nothing else, these additional data show that mixtures of active compounds do not predictably give rise to superadditive effects.

Applicants therefore respectfully submit that their claimed invention is not rendered obvious by Jautelat et al in view or the cited Latteur et al article and further in view of Eicken et al and Valcke et al and, consistent with the representations in the Advisory Action, should be passed to allowance.

In view of the preceding amendments and remarks, allowance of the claims is respectfully requested.

Respectfully submitted,

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